

Department of Defense
Human Factors Engineering
Technical Advisory Group
Meeting 57



14-17 May 2007

Host:

Army Research Laboratory

Meeting Theme

Reducing Risk through Collaboration

Government acquisition and research processes are often characterized as highly formalized and complex with multiple stakeholders who have competing interests. When a research or acquisition program encounters technological challenges that may increase program risk via cost overruns, slipped schedules, or poor performance outcomes, hastily improvised solutions have been met with varying degrees of success. Technology woes often filter down to the human-machine interface and become an additional burden to the user. This meeting of the DoD HFE TAG will focus on efforts to reduce risk through collaboration for government-procured systems and government-funded research programs.

Effective collaboration has been credited with lowering costs, reducing development time, accelerating information exchange, reducing unnecessary redundancy, improving usability, and driving innovation. Human Factors engineers and Human Systems Integration (HSI) practitioners can participate in multiple collaborative efforts at different stages in the development cycle to reduce risk. For example, they can be members of (1) a multidisciplinary acquisition team in which they work engineering design issues, (2) a joint services HSI team working AIRPRINT, MANPRINT, and SEAPRINT issues, and/or (3) research programs with academia and industry partners.

The goal of TAG-57 is to provide a forum for participants from the military and other government agencies to discuss HSI within the context of collaboration, cooperation, and partnerships that have reduced risk or have the potential to do so. Suggested topic areas include:

- Building partnerships
- Case studies, success stories, and lessons learned
- Developing effective strategies
- Facilitating collaboration, communication, and information sharing
- Innovative and best practices
- Leveraging resources
- Managing complexity and risk
- Overcoming obstacles
- Sharing tools, methods, laboratories, and technologies
- Technology transfer

PROGRAM SUMMARY

Department of Defense Human Factors Engineering Technical Advisory Group Meeting 57: 14-17 May 2007 Portsmouth, VA

Monday 14 May 2007

0830 - 1000	Executive Committee meeting
1000 - 1100	New member orientation
1100 - 1300	Luncheon Break
1300 - 1700	Plenary Session
1800 - 2000	TAG Mixer

Tuesday 15 May 2007

0730 - 0830	Technical Society/Industry
0830 - 1100	Human Factors Test and Evaluation
0830 - 1100	Personnel Screening and Selection
0830 - 1100	Human Robotics Interface/Interaction Special Interest Group
0930 - 1000	Networking, coffee
1100 - 1230	Luncheon Break
1230 - 1430	Human Factors Standardization
1230 - 1430	Controls and Displays
1230 - 1700	Human Factors in Training
1430 - 1500	Networking, coffee
1500 - 1700	Human Factors in Extreme Environments
1500 - 1700	Craft Biodynamics Special Interest Group
1700 - 1830	TS/I and Service Caucuses

Wednesday 16 May 2007

0730 - 0830	Distributed and Dismounted Warfare Special Interest Group
0830 - 1100	Human Modeling and Simulation
0830 - 1100	Workload and Stress
0930 - 1000	Networking, coffee
1100 - 1230	Luncheon Break
1230 - 1430	Design: Tools and Techniques
1230 - 1430	User-Computer Interaction
1430 - 1500	Networking, coffee
1500 - 1700	Human Factors Engineering/Human Systems Integration: Management and Applications
1500 - 1700	System Safety/Health Hazards/Survivability
1800 - 2200	Social

Thursday 17 May 2007

0800 - 0930	Operating Board
1015 - 1700	Tour (unofficial times – brown bag lunch available for purchase)

Note – The Workload and Stress, Design: Tools and Techniques, and the Sustained/Continuous Operations subTAGs will not meet at TAG-57.

SESSIONS

MONDAY, 14 MAY *(meeting rooms are subject to change)*

Executive Committee – **0830 – 1000**

Meeting of the Executive Committee only. Others by invitation of the Chair, Mr. Adrian Salinas.

New Member Orientation – **1000 – 1100**

Luncheon Break - **1100 – 1230**

Plenary – **1300 – 1700 (tentative agenda)**

- Welcome - Mr. Adrian Salinas, DoD HFE Chair
- Dr. Patricia Chalmers – JFCOM
- Mr. Rick Etheridge – Navy
- Mr. Don Monk – Air Force
- Dr. Edna Fielder – Baylor College of Medicine working on collaborative project with NASA

TAG Mixer – **1800 – 2000**

Technical Society/Industry – **0730 – 0830**

Human Factors Test and Evaluation – **0830 – 1100**

0830 – 0840

Welcome & Session Overview – Darren Cole, Air Force Flight Test Center.

0840 - 0900

Aircraft Maintenance Intuitive Troubleshooting Field Demonstration Test Results - Mr. Christopher K. Curtis, Air Force Research Laboratory, Logistics Readiness Branch.

Troubleshooting-intensive aircraft maintenance career fields have undergone over 40 years of consolidations, generalizations, and manpower cuts, while operational tempo and weapon system complexity have increased. To counter this loss of experience and corporate knowledge, the Air Force Research Laboratory Logistics Readiness Branch initiated the Aircraft Maintenance Intuitive Troubleshooting (AMIT) program. AMIT, a 36 month advanced R&D critical experiment that started in December 2003, was conceived as a revolutionary step in enhancing human performance of flight line maintenance technicians by capturing strategic knowledge for reuse and providing domain-specific information to those in aircraft troubleshooting roles.

The AMIT Critical Experiment performed a Field Demonstration Test (FDT) at Luke AFB from June to September 2006 to measure the effects of using an advanced job performance aid (JPA) in troubleshooting a series of aircraft discrepancies. The FDT consisted of four separate test sessions involving 72 test subjects troubleshooting three different problem sets. Two test sessions concentrated on the Avionics and two concentrated on the Electro/Environmental (E&E) System. The FDT measured task time and errors for maintenance troubleshooting tasks in both the current “as-is” environment (Without AMIT JPA) and the future “to-be” environment (With AMIT JPA).

Results from the FDT demonstrated the AMIT JPA provided an average time savings of 45 minutes per Avionics task and 55 minutes per E&E task while eliminating critical errors that would lead to an incorrect solution. The time savings demonstrated in the FDT, when extrapolated to all Avionics and E&E maintenance tasks across the F-16 Block 40/42 fleet (402 total aircraft), would yield an increase in availability equivalent to an additional 5.4 aircraft per year. In addition, qualitative feedback collected from all test subjects was overwhelmingly positive.

0900 - 0920

Human Performance Analysis Tools (HPAT) Suite – TBD.

HPAT is an end-to-end software suite to plan for and execute human performance studies and analyze associated human performance data in a variety of execution environments. NSWC Dahlgren has been developing the HPAT suite for several years through a variety of programs for OPNAV, ONR, NAVSEA, and NAVAIR. Some uses to date include ship-board Fleet Synthetic Training (FST) support, individual and team assessment, usability assessment, and system process and performance evaluation in simulated and real-world events. Sample metrics collected in HPAT include task completion, outcomes, quality assessment, accuracy, timeliness, workload (NASA-TLX), leadership, communication, supporting behavior, information exchange, Team Dimensional Training (TDT), and ad-hoc measures.

HPAT's components (Planner, Observer, and Analyzer) are designed to maximize usability and to streamline the process of structured observation and analysis. Depending on the situation, the plan can be a structured timeline of events with expected tasks and measures, or the plan can be a list of tasks or tasks, procedures, and measures. Users can build reusable components to utilize within and across plans. The plan exports directly into a hand-held observation tool where multiple trained observers can conduct and record an exercise. Following the exercise, the results are imported into the Analyzer to compare, categorize, and determine the salient points for further analysis.

0920 - 0940

Tradespace for Systems Analysis (TSSA) – Mr. Milt Stretton, Sonalysts Inc.

Program Managers must make early technology and human allocation decisions that have long-term cost and performance consequences. The Tradespace for Systems Analysis (TSSA) was developed to apply “quantitative common sense” to these engineering decisions. This structured, repeatable process integrates several previously separate engineering activities into a framework for prioritizing viable solutions. Distributed engineering team members can use TSSA to collaborate with each other as they consider critical technology, human, cost, performance, and schedule tradeoffs. TSSA supports systems analysis within operational (scenario and activity) and system (technology and human structures) views. We look for other Navy and DoD systems commands to extend TSSA toward an enterprise solution beyond its current use.

0940 - 1100

Human Performance and Operational Test & Panel Discussion – Ms. Barbara Wilper, Human Performance Center, NAVSEA Detachment.

This presentation explores: 1) the relationship between Human Performance and Mission Performance, 2) the Requirements documentation sources for Human Performance, Developmental Test, and Operational Test measures and criteria, and 3) the benefits to be derived from including human performance parameters during operational test and evaluation. It also outlines the current Memorandum of Agreement between Navy OPTVEFOR and Naval Sea Systems Command HSI Technical Warrant Authority. A panel discussion with an Operational Tester representing each service will follow the presentation.

Personnel Screening and Selection - 0830 – 1100

- SYRUS: Individual Differences in Multitasking Performance - Dr. Andrew Jones, Navy Personnel, Research, and Studies Division, Bureau of Naval Personnel
- Navy Computer Adaptive Personality Scales (NCAPS): Initial Results from Response Distortion and Large-Scale Validation Studies - Dr. Andrew Jones, Navy Personnel, Research, and Studies Division, Bureau of Naval Personnel
- USAF Enlisted Air Traffic Controller Selection -Dr. Tom Carretta, Air Force Research Laboratory
- Development and Validation of Aviation-Related Selection and Classification Batteries for the U.S. Army - Kenneth T. Bruskiewicz and Janis Houston, Personnel Decisions Research Institutes

Human Robotics Interface/Interface Special Interest Group - 0830 – 1130

Networking/Coffee - 0930 – 1000

Luncheon Break - 1100 – 1230

Human Factors Standardization - 1230 – 1430

- Introduction of Attendees
- Status reports
 - FAA Human Factors Design Standard
 - JPADS (Joint Precision Airdrop System)
 - MIL-STD-2525C, *Common Warfighting Symbolology*
 - NASA-STD 3001 and the Human Integration Design Handbook (HIDH)
 - MIL-STD-1472 (Human Engineering)
 - MIL-STD-1474 (Noise Limits)
 - MIL-STD-1787 (Aircraft Display Symbolology)
 - JSSG-2010 (Joint Service Specification Guide for Crew Systems)
 - HFES & ISO TC 159 (Ergonomics)
 - Data Item Descriptions
- HFES Report
- HFS SubTAG Charter
- Incoming Co-Chair Selects
- New Business

Controls and Displays - **1230 – 1430**

- Did you see that? Examining New Techniques for Displaying Multistatic Active Sonar Information. – Clayton J. Hutto, Research Scientist, Human Systems Engineering Branch - Systems Evaluation Division, Electronic Systems Laboratory of the Georgia Tech Research Institute (GTRI)
- ICARUS: A Case Study in the Impact of Cooperative Design on the Development of Novel C2 Systems - Vera Zaychik Moffitt, Senior Member, Engineering Staff Lockheed Martin Advanced Technology Laboratories
- Tactical Biometrics Collection & Matching System, A Case Study in Collaboration for Rapid Development Efforts - Katie Hall, Human Systems Engineer, Naval Surface Warfare Center, Dahlgren, VA
- Cliff Lieberman, POSITION, FACILITY
- Multi-Aircraft Video Human/Automation/Target Recognition Studies, Thomas R. Carretta, Air Force Research Laboratory – **GOVERNMENT ONLY PRESENTATION!**

Human Factors in Training - **1230 – 1700**

- Welcome and Session Overview - John E. Stewart, Brooke Schaab, U.S. Army Research Institute
- Research in the Crew Systems area at the NASA Langley Research Center, James R. Comstock, Jr. NASA Langley Research Center, Hampton, VA
- Developing Benchmark Performance Measures for Collaborative Planning Performance - William R. Sanders, U.S. Army Research Institute for the Behavioral and Social Sciences, Armored Forces Research Unit, Fort Knox, KY
- Meeting Fleet Needs Through Usability Analysis and Collaboration - Beth F. Wheeler Atkinson, Melissa M. Walwanis Nelson, G. Susanne Bahr, Eric R. Stewart, and Troy O. Bennett, Naval Air Warfare Center Training System Division, Orlando, FL
- Crafting The “Self-Directed Team”: Chaos Theory Implications for Personality-Based Collaboration - Colonel David Lamp (USAF) U.S. Joint Forces Command J9, Suffolk, VA
- Evaluating the Effectiveness of Flight School XXI, Army Aviation’s Collaborative Venture With Industry - Michael L. Wesolek, U.S. Army Research Institute for the Behavioral and Social Sciences, Fort Rucker, AL
- Do Cultural Characteristics Influence Collaboration? - Brooke Schaab, U.S. Army Research Institute for the Behavioral and Social Sciences, U.S. Joint Forces Command J9, Suffolk, VA
- The Aviation Psychologist as Change Agent: ARI’s Collaborative Efforts to Change the Way the Army Trains - John E. Stewart II, U.S. Army Research Institute for the Behavioral and Social Sciences, Rotary Wing Aviation Research Unit, Fort Rucker, AL

Networking/Coffee - **1430 – 1500**

Human Factors in Extreme Environment – **1500 – 1700**

Craft Biodynamics Special Interest Group – **1500 – 1700**

- The Development of a High Speed Craft Human Factors Design Guideline - Trevor Dobbins, PhD & Eric Pierce, M.S., Human Sciences & Engineering, UK and NSWC-Panama City, FL, USA.

High Speed Craft expose the user to potentially the harshest motion environment experienced by employees in their line of duty. The crews can be subjected to g-forces that are greater than those experienced by a fast jet pilot during ejection, for extended periods of time. Traditionally there has been relative little HF input to the design of HSC by the Naval Architect community at large - this may in part be due to the lack of HF inclusion in academic Naval Architecture courses. The potential for developing of an HSC HF guideline was proposed by the authors at the MACC and at a RINA RIB conference, and was subsequently further supported with a scoping study sponsored by the UK MOD DPA Sea Systems Group. The outcome of the scoping study supported the development of an HF guideline, rather than a Standard, and therefore the Sea Systems Group

sponsored the production of a Draft Guideline. The Guideline has been developed in cooperation with the ABCD Working Group and is currently in the process of being reviewed by member Nations (UK, US, CA, NL, AUS) for feedback and submission of additional information and good-practice examples. This briefing will outline the background and process that was undertaken to produce the Guideline, and the anticipated benefits to the Naval Architect, Acquisition and End-user communities.

- Long-Term Health Surveillance for High Speed Military Craft - Ron Peterson, PhD
L3 Communications, Panama City Beach, FL

Crew and passengers of high speed military craft, particularly planing boats, are often subjected to severe, discrete, and repeated impacts that can produce cumulative injury to the lumbar spine. Injury to other body sites, including the cervical spine and knees, have been reported but lumbar spine injury is viewed as the most frequent and debilitating mode of impact injury.

The U. S. Navy Office of Naval Research is sponsoring the development of a system to monitor the accumulation of lumbar spine injury called the Long-Term Health Surveillance system. The system, being developed by the Naval Surface Warfare Center, Panama City, L-3 Communications, and the University of Virginia's Center for Applied Biomechanics, is to be applied initially to U. S. Special Operations craft crewmembers. The concept involves installing an acceleration data acquisition unit on each craft, and equipping all crewmembers with a radio frequency identification (RFID) card to identify those subjected to the impact conditions. The data acquisition unit will acquire and store both acceleration and occupant ID data that will be periodically uploaded to a web-based server. The software on the server computes cumulative stress to the spine, for each craft occupant, based on a state-of-the-art injury model being developed by the University of Virginia. Medical personnel responsible for monitoring the health of the crewmembers will periodically access the database and recommend appropriate intervention when exposure to an individual has reached a threshold level as defined by the injury model.

- Criteria for the Analysis of Injury Risk of Occupants in High Speed Planing Boats - Cameron 'Dale' Bass, PhD, Adam Ziemba, Joseph Ash, Robert Salzar, Center for Applied Biomechanics, University of Virginia, Charlottesville, Virginia, USA; Ron Peterson, PhD, L3 Corporation, Panama City, Florida, USA; Eric Pierce, Brian Price, Naval Surface Warfare Center, Panama City, Florida, USA

Gollwitzer and Peterson [Gollwitzer-1994] initially described the effects of repeated shock impacts on occupants during high speed operations in Naval Special Warfare planing boats. Ensign et al. [Ensign-2000] found compelling evidence of a significant injury problem in a study of self-reported injuries of high speed boat operators. It was found that 65% of operators responding to the survey sustaining boat-related injury, 89% of which within the first two years of operation. This injury problem is both acute and chronic, reducing both the short-term and the long-term effectiveness of personnel who are exposed to repeated shock impacts.

Sea trials performed in January 2003, October 2003, and January 2005 provide data upon which the relative performance of discomfort methods (RMS, ISO 2631 Part 1 (1985) RMS, and ISO 2631 Part 1 (1997) VDV) and injury assessment methods (ISO 2631 P5) may be evaluated for human discomfort and impact injury from dynamic measurement. In these sea trials, boat deck, seats, human volunteers and Hybrid III anthropomorphic dummies were instrumented with tri-axial accelerometers and tri-axial angular rate sensors. The Hybrid III dummies also contained lumbar and cervical spine load cells.

The RMS, ISO 2631 Part 1, and ISO 2631 Part 5 were all evaluated at the seat pad of the occupant. However, discomfort and injury relevant to this work is related to accelerations and the corresponding forces of the lumbar spine. Often discomfort is a sign of the initiation of an injury; however this is not always the case [Village-1995]. In this study it was found that the RMS of the seat pad accelerations does not account for human spine dynamics, nor does it accurately account for single severe events that are common with high speed planing boats. ISO 2631 Part 5 is the only existing criterion to contain transfer functions that predict tri-axial lumbar spine accelerations

from measured seat pad accelerations. Within the ISO-2631 Part 5 standard, lumbar forces are estimated from the predicted lumbar accelerations. These forces are correlated to a likelihood of injury based upon the ultimate strength of the lumbar spine, the variance of this strength, and probability analysis. Lumbar spine acceleration (which are often approximated by exterior back accelerations corresponding to the L4 lumbar spine) and the measured lumbar spinal forces in the Hybrid III dummies can be compared to predicted values from ISO 2631 Part 5 as a way to validate the standard.

From this analysis, the ISO 2631 Part 5 framework was found to be the best injury framework to assess repeated loading injury on high speed planing craft. Several aspects of this framework, however, should be improved to make predictions for military operators. First, injury reference values in ISO 2631 Part 5 may be too low, especially for military operators. An analysis of predicted and measured lumbar forces, coupled with anecdotal information concerning ride quality from experienced crewmen was used to recommend appropriate injury thresholds for occupants of high speed planing craft. Second, the ability of the ISO-2631 pt. 5 human dynamics model to accurately predict accelerations both within and outside of its design range is assessed using a transmissibility study and a comparison of the predicted spinal acceleration to measured back accelerations from sea trials and numerical modeling results. The results of these models indicate that the neural network can predict non-physical acceleration time-histories even within its range of validity. Outside of its design range the neural network under-predicts spinal accelerations, becoming a severe above approximately 5 g. So, a simple transfer function between deck and human lumbar spine was created using a lumped mass human model (MADYMO) that has been validated for experimental high speed craft operations to impacts with vertical accelerations greater than 10 g.

- Vessel Motion Influences On Human Performance: The High Speed Navy - Michael E. McCauley, PhD, Naval Postgraduate School, Monterey, CA; Eric Pierce, M.S., Naval Surface Warfare Center, Panama City, Florida; LT Panayiotis Matsagas, Hellenic Navy, Athens

This paper will present the most recent results from an ongoing analysis of the effects of high speed naval operations on the performance, comfort, and safety of crew and passengers aboard high speed vessels. This research program, sponsored by the Littoral Combat Ship (LCS) Program Office, investigates the effects of vessel motion including motion-induced interruptions with task performance, direct biodynamic feed through to manual tasks, and motion sickness. Data have been collected on a series of vessels including the HSV-2 SWIFT, the FSF-1 Sea Fighter, and a stabilized monohull (trimaran), the Benchijigua Express, which is similar in hull design to the General Dynamics LCS vessel.

This paper will focus on the data collected on the Benchijigua Express, a 127 meter trimaran built by Austal and operated by Fred Olsen SA Ferry Lines. Vessel motion data were obtained from a set of sensors developed and installed by NSWC Panama City. Wave height data were obtained from sensors and from estimates of wave height and direction provided on each voyage by the Captain. Data were obtained on two runs per day, morning and evening, for a total of 86 2-hr voyages during February and March 2006. Video data were captured to explore the incidence of loss of balance or similar interference with locomotion. A perceptual-manual task provided data on manual task interruptions. Questionnaire data were obtained from nearly 2,000 passengers regarding subjective ratings of motion sickness and motion induced interruptions.

Motion sickness symptoms were reported frequently, especially during the evening transit. A negative correlation was found between motion sickness scores and dominant wave period. Significantly less motion sickness ($p < 0.001$) was evident in beam seas compared to other relative headings. This result could be related to the roll stabilization afforded by the trimaran hull design. The comparison of morning and evening test periods revealed significantly higher motion sickness scores on evening trips (after controlling for wave height). This result is consistent with the fact that no visual horizon was available in the evening run, due to darkness, thus promoting a visual-vestibular conflict.

Data from the balance disturbances and manual tasks are being analyzed and will be summarized.

The findings to date indicate that high speed vessels' motion characteristics influence the performance and comfort of un-adapted passengers but have less influence on fully adapted crew. The capability to manage this problem may be important for the effective use of LCS to transport ground combatants and for Sea Basing concepts.

Technical Society/Industry - **1700 – 1830**

Army Caucus - **1700 – 1830**

Air Force Caucus - **1700 – 1830**

Navy Caucus - **1700 – 1830**

NASA Caucus - **1700 – 1830**

WEDNESDAY, 16 MAY

Distributed and Dismounted Warfare Special Interest Group – **0730 – 0830**

Human Modeling and Simulation – **0830 – 1100**

Networking/Coffee - **0930 – 1000**

Luncheon Break - **1100 – 1230**

User Computer Interaction - **1230 – 1430**

Networking/Coffee - **1430 – 1500**

Human Factors Engineering/Human Systems Integration: Management and Applications –**1500 - 1700**

- A Review of Air Force and Joint Forces capabilities documents for HSI requirements and concerns - Michael Salyer, Northrop Grumman
- HSI PORT: Current Capabilities and Future Enhancements, Bonnie Battaglia Novak, Human Factors Engineer, Serco Inc., 2650 Park Tower Drive, Vienna, VA 22180
571.226.5121, bonnie.novak@serco-na.com
- Design Collaboration through REHMS-D – Mr. Ken LaSala, Ph.D., KPL Systems, kpalsys@verizon.net
- Underwater Crime Scene Investigation - Dr. Dale Nute, dnute@ps.fsu.edu

System Safety/Health Hazards/Survivability – **1500 - 1700**

- Speech Communication With Use of the Advanced Combat Helmet With Selected Hearing Protection and Communication Equipment - Ms. Rachel Weatherless Army Research Laboratory
- Life-Cycle Noise Cost/Risk Modeling - Mr. Mark Geiger Chief of Naval Operations, Occupational Safety and Health Branch
- A Comparison of the Acoustic Properties of Two Versions of the Combat Arms Earplug - Ms. Mary Binseel, Army Research Laboratory
- Improvements in Biological Detection Through Statistical Process Modeling - Cadet Andrew Robinson United States Military Academy
- Progress on Sub-TAG Project to Document Integration of OH/SS/SV into Organization's Acquisition Process - Mr. George Murnyak, Army Center for Health Promotion and Preventive Medicine

Social – **1830 – 2100**

THURSDAY, 17 MAY

Operating Board – **0800 – 0930**

Tour – **1015-1700** : On Thursday, May 17th, the Navy will host the TAG in a tour of the Virginia Advanced Shipbuilding and Carrier Integration Center (VASCIC) at Northrup Grumman Naval Shipyard (NGNN). The tour will depart the hotel at 1015. The tour will last until 1430 with a box lunch break. After the shipyard, we'll tour a Naval Base Submarine. We expect to return to the hotel by 1700. Please make your travel plans accordingly. Transportation will be provided by the TAG and is the only approved method of transportation for the tour. Because of security issues,

the tour is limited to US citizens only and you may not drive independently of the TAG provided transportation. Box lunches can be purchased ahead of the tour. Please see the TAG coordinator on-site upon check-in at the meeting.

EXECUTIVE COMMITTEE

Chair (Air Force)	Mr. Adrian Salinas	(210) 536-4428 adrian.salinas@brooks.af.mil
Vice Chair (Army)	Ms. Katrina Baker	(410) 278-5856 DSN 298 katrina.anne.baker@arl.army.mil
Immediate Past Chair (Navy)	Ms. Maureen Bergondy-Wilhelm	(407) 380-4777 DSN 960 maureen.bergondy@navy.mil
Army Representative	Dr. Pamela Savage-Knepshield	(732) 427-3854 DSN 987 psavageknepshield@arl.army.mil
Navy Representative	LT Brent Olde	(831) 656-3807 baolde@nps.edu
Air Force Representative	Mr. Darren Cole	(661) 275-0171 darren.cole@edwards.af.mil
NASA Representative	Ms. Faith Chandler	(202) 358-0411 fchandle@hq.nasa.gov
FAA Representative	Dr. Thomas McCloy	(202) 267-7167 tom.mccloy@faa.gov
TAG Coordinator	Ms. Sheryl Cosing	(703) 925-9791 scosing@comcast.net

SUBTAG CHAIRS

Controls and Displays	Ms. Marianne Paulsen	(850) 235-5527 Marianne.paulsen@navy.mil
	Mr. Justin Kingsford	(540) 653-2508 Justin.kingsford@navy.mil
Design: Tools and Techniques	Dr. Pamela Savage-Knepshield	(732) 427-3854 DSN 987 psavageknepshield@arl.army.mil
	Mr. Jeffrey Thomas	(410) 278-5454 Jthomas@arl.army.mil
Human Factors Engineering / Human Systems Integration: Management and Applications	Mr. Brad Collie	(850) 234-4744 bradley.collie@navy.mil
	Mr. Daniel Wallace	(202) 781-2598 Daniel.wallace@navy.mil
Human Factors in Extreme Environments	Ms. Mihriban Whitmore	(281) 244-1004 Mihriban.whitmore-1@nasa.gov
Human Factors in Training	Dr. John Stewart	(334) 255-9109 DSN 558 john.e.stewart@us.army.mil
	Dr. Brooke Schaab	(757) 203-3306 Brooke.schaab@us.army.mil
Human Factors Standardization	Mr. David Britton	(937) 255-2030 DSN 785 david.britton@wpafb.af.mil

Human Factors Test and Evaluation	Mr. Darren Cole Ms. Trish Hamburger	(661) 275-0171 darren.cole@edwards.af.mil (540) 653-1119 patricia.hamburger@navy.mil
Human Modeling and Simulation	LT Jeff Grubb	(301) 342-9284 Jeff.grubb@navy.mil
Personnel Selection and Classification	LT Tatana Olson Dr. Larry Katz	(850) 452-2257 ext 1090 tmolson@nomi.navy.mil (334) 255-2385 Lawrence.c.katz@conus.army.mil
Sustained/Continuous Operations	Dr. Thomas Nesthus LCDR Walter Carr	(405) 954-6297 tom.nesthus@faa.gov (301) 435-5144 carrw@nmrc.navy.mil
System Safety/Health Hazards/Survivability	Mr. George Murnyak Ms. Barbara Palmer	(410) 436-2925 DSN 584 George.murnyak@us.army.mil (937) 781-2803 Palmer_barbara@bah.com
Technical Society/Industry	Dr. Jennifer Narkivicious	(301) 904-3631 jnarkevicius@jeniusolutions.com
User-Computer Interaction	LT Nausheen Momen Mr. Stephen Merriman	(850) 452-3668 nmomen@kent.edu (972) 994-6419 Stephen.c.merriman@boeing.com
Workload and Stress	Ms. Debra Patton	(410) 278-5890 DSN 298 dpatton@arl.army.mil
Mission Centric Human Performance Measurement Special Interest Group	Mr. John Rice	(757) 282-5546 x3802 ricej@cotf.navy.mil
Human Robotic Interface/Interaction Special Interest Group	Mr. Bob Smith	(703) 588-7419 Robert.R. Smith@osd.mil
Craft Biodynamics Special Interest Group	Mr. Eric Pierce	(850) 235-5595 DSN 436 eric.pierce@navy.mil
Distributed and Dismounted Warfare Special Interest Group	Mr. Matt Yanagi	(619) 804-6994 yanagi@spawar.navy.mil

ABSTRACTS

If you are presenting at the plenary session, please bring your half page summary for inclusion in the Minutes or send it to the TAG Coordinator in advance. If you are presenting in a subTAG session, please send your summary to the subTAG chair of the session in which you are presenting.

GENERAL GUIDELINES

Font: 11 or 12 point type, Arial font. Margins: 1.0 inch left, right, top and bottom.

Submission: Electronic format is preferred: PC-readable disk or e-mail in Word format. If that is not possible, submit hardcopy that meets all the format requirements.

Do not include classified, acquisition sensitive, or proprietary information.

You may wish to have your sponsor's approval before briefing at the TAG. The summaries will be included in Minutes published on the TAG website.

SESSION ABSTRACTS FORMAT

TITLE: Full presentation title.

PRESENTER: Name, title, organization, complete mailing address, phone number, DSN (if applicable), email (optional). Separate with commas on two or three lines to leave as much space for narrative as possible.

SYNOPSIS: Narrative. Briefing slides will not be published. Address all important points of your presentation in a succinct manner. Abstracts should be no longer than one-half page (4.25 inches in height or 25 lines maximum). Note general format above.

For presentations discussing results of research and applications:

Concentrate on completed research or interim results which have not been previously reported at the TAG. Include a general statement to orient the reader to the problem under study, the findings, and the recommendations.

For presentations discussing programs in progress:

Acquaint others with on-going work, so we may know what others are doing. Mention participating individuals, phone numbers, organizations, and the portion of work each is addressing so they may be contacted for more information. Mention joint-service participation and dual-use technologies. If the program is producing a product, mention what it will do; and identify the intended user community.

General Information

ATTENDANCE POLICIES

Attendance at the **DoD HFE TAG** is open to:

- US Military/Government employees
- Official technical society/industrial association representatives
- Employees of National Laboratories or Federally contracted research centers
- Specifically invited plenary presenters/guests
- Students majoring in human factors and related disciplines

All others must have a written invitation to attend. Contact the TAG Coordinator for additional information.

ACCOMMODATIONS

A block of rooms has been reserved for the TAG at the Renaissance Portsmouth Hotel and Waterfront Conference Center.

Cutoff date: ~~13 April~~ **Room cutoff extended until April 20**
TAG rates: single \$94

The above rates are exclusive of tax. The current taxes are Portsmouth city tax of 8% and a VA state tax of 5% per room/night.

Check-in: 1600 hours Check out: 1200 hours
Reservations: (888) 839-1775. You must identify yourself as group code **hfm**.

TRANSPORTATION

Norfolk International Airport serves the Hampton Roads areas. For details as to airlines served and flight times, see - <http://www.norfolkairport.com>. For hotel transport, use the Carey VIP Shuttle service at the Airport Connections booth outside door #3 at baggage claim. They are a 24-hour service. The cost to the Renaissance is \$32. For more information call toll free 877-422-1105 or 757-963-0433 (Norfolk) or <http://careyvip.net/careyvip/airportconnection/>.

Parking at the hotel is \$10/day. Since all restaurants are within walking distance of the hotel and transportation will be provided for the social and tour, a car is not necessary to participate in this meeting.

REGISTRATION

Registration can be done online at the TAG web site: <http://hfetag.dtic.mil/register.html> or by submitting the registration form in this packet.

Please remember that you must be register and badged before attending any SubTAG/Plenary session.

Registration Desk is open	Monday	1100 – 1430
	Tuesday	0800 – 1430
	Wednesday	0800 – 0830
	Thursday	0800 – 0830

PAYMENT

Credit card: *The TAG accepts payment for registration by credit card using PayPal only. The online registration form must be used in order to accept a credit card payment. CREDIT CARDS ARE NOT ACCEPTED ON-SITE.*

Checks or money orders: Are accepted. Purchase orders are not accepted. Please do not mail cash. Enclose payment with the registration form, or send separately if registering online.

Registrations received after 27 April will be considered LATE – late registrants will not be have preprinted name badges nor be included in pre-registration attendee lists distributed

at the meeting. If you are unsure whether you will be able to attend the meeting and this deadline presents a problem, call the TAG Coordinator.

Fees:

ON-TIME REGISTRATION - 27 APRIL 2007)

Regular registration	\$100.00
Special student rate (applies to full-time students only)	\$ 5.00

LATE REGISTRATION (28 April – 17 May 2007)

Late and Onsite registration	\$125.00
Late and onsite student rate	\$ 30.00

OPTIONAL EVENTS:

Social - per person (16 May 2007)	\$ 50.00
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Paper receipts will be given to all registrants at on-site registration.

FUNCTIONS

Social: Please join us on Wednesday, May 16th, for a tour of the world's greatest harbor on the Carrie B. She is a replica of a 19th century Mississippi River paddle wheel. During our cruise we'll enjoy a barbeque dinner while we see: Naval Station Norfolk – the world's largest naval base and largest military installation; Hampton Roads - Capt John Smith explored the harbor in 1607 before settling Jamestown; Monitor vs Merrimac (CSS Virginia) Battle Site - the battle between the original ironclad warships was fought on March 9, 1862. This function should be paid for out of pocket.

Tour: On Thursday, May 17th, the Navy will host the TAG in a tour of the Virginia Advanced Shipbuilding and Carrier Integration Center (VASCIC) at Northrup Grumman Naval Shipyard (NGNN). The tour will depart the hotel at 1015. The tour will last until 1430 with a box lunch break. After the shipyard, we'll tour a Naval Base Submarine. We expect to return to the hotel by 1700. Please make your travel plans accordingly. Transportation will be provided by the TAG and is the only approved method of transportation for the tour. Because of security issues, the tour is limited to US citizens only and you may not drive independently of the TAG provided transportation. Box lunches can be purchased ahead of the tour. Please see the TAG coordinator on-site upon check-in at the meeting.

MISCELLANEOUS

Travel Orders: All technical meetings will be held at the conference hotel. For networking purposes and for meeting changes/updates, it is desirable that you stay at the conference hotel.

Clearances: All briefings are unclassified: no clearances are necessary for U.S. citizens for any of the scheduled meetings.

Military Dress: Check with your Service Representative.

Abstracts: Presenters at any of the sessions should provide a summary of their presentation to their subtag chair prior to the meeting for inclusion in the Minutes of the meeting. An electronic version is preferred. For format and detailed instructions, refer to the Abstracts section of this packet.

New Members: If you are new to the TAG, you should plan to attend the new member orientation session on Monday, 14 May 2007 from 1000-1100 hours. New attendees are also encouraged to participate in their specific caucus meetings.

Caucus Meetings: If you work for one of the military services (uniform or civilian), you should plan to attend your service caucus meeting. These meetings are intended to provide you with the opportunity to participate in TAG decisions and discussions concerning service-specific issues.

Materials Storage: Renaissance Portsmouth will accept small packages for storage at no cost. Label the items:

ATTN: DoD HFE TAG/S. COSING
Renaissance Portsmouth Hotel and Waterfront Conference Center
425 Water Street
Portsmouth, VA 23704

Updated - 5/4/2007

**DEPARTMENT OF DEFENSE
HUMAN FACTORS ENGINEERING
TECHNICAL ADVISORY GROUP (TAG)
Meeting 57: 14-17 May 2007**

REGISTRATION

Use this form or register online: <http://hfetag.dtic.mil/register.html>

1. Mailing Information (including military rank or title, ie., Dr., Ms., Mr.):

Name _____
Address _____

City/State/Zip _____
Telephone _____ DSN _____ FAX _____
Email _____

2. Badge Information:

Name _____
Organization _____

3. Status (See "Attendance Policies" for information)

() military/government () GOCO () other _____
() official (credentialed) TS/I member representing _____

4. If called the week prior to the TAG, do you have a 15-30 minute briefing you could present?

() plenary session or _____ SubTAG session

5. Social - Cruise on the Carrie B

___yes ___no _____# of total attendees (including yourself)

6. Shipyard and Submarine Tour (Sorry, US citizens only – transportation provided)

___yes ___no _____# of total attendees (including yourself)

7. Enclose check/money order made out to the **DoD HFE TAG**. Credit card payment **must** be made via the TAG's online registration form <http://hfetag.dtic.mil/meetschl.html>:

Regular registration (until 27 April)	\$100.00	___
Late registration (after 27 April)	\$125.00	___
Student registration (full time students only)	\$ 5.00	___
Late Student registration	\$ 30.00	___
Cruise on the Carrie B	\$ 50.00	___

TOTAL _____

Return this registration form to:

Sheryl Cosing
10822 Crippen Vale Ct.
Reston, VA 20194
Phone (703) 925-9791 FAX (703) 925-9694
scosing@comcast.net
TAG Web Site <http://hfetag.dtic.mil>